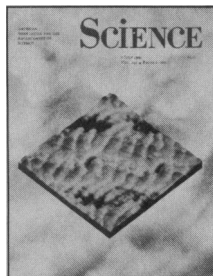


	7	This Week in <i>Science</i>
Editorial	9	Retrieval of Scientific and Technical Data
Perspective	13	Molecular Defects in Insulin Action: C. R. KAHN AND B. J. GOLDSTEIN
Letters	14	Fairness in Employment Testing: J. HARTIGAN AND A. WIGDOR; C. HOLDEN; L. HUMPHREYS ■ Baseball and Quantum Theory: N. BUCKLEY ■ Educational Computing: A. LUEHRMANN
Policy Forum	16	The Third Generation of the Space Age: G. A. KEYWORTH II AND BRUCE ABELL
News & Comment	20	Science Advisers Need Advice ■ Ethics by the Book
	23	NIH Grapples with Conflict of Interest
	24	Representative Roe Rides to the Rescue
	25	House Approves SSC Construction Europe Says No to Animal Patents
Research News	26	Chaos Theory: How Big an Advance? ■ Art Imitates Chaos ■ Everywhere You Look, Everything Is Chaotic
	29	Brown Dwarf Candidates Abound
	30	Do Sperm Spread the AIDS Virus?
	31	<i>Random Samples</i> : What Are You Worth? ■ Counting Heads ■ Cold Fusion Couture
Articles	32	Number of Siblings and Educational Attainment: J. BLAKE
	37	Explosive Molecular Ionic Crystals: W. L. FAUST
Reports	43	Smectic Liquid Crystal Monolayers on Graphite Observed by Scanning Tunneling Microscopy: D. P. E. SMITH, H. HÖRBER, C. GERBER, G. BINNIG
	45	Scaling Body Support in Mammals: Limb Posture and Muscle Mechanics: A. A. BIEWENER
	48	Scale Invariance in Food Web Properties: G. SUGIHARA, K. SCHOENLY, A. TROMBLA

- **SCIENCE** is published weekly on Friday, except the last week in December, and with an extra issue in February by the American Association for the Advancement of Science, 1333 H Street, NW, Washington, DC 20005. Second-class postage (publication No. 484460) paid at Washington, DC, and at an additional entry. Now combined with **The Scientific Monthly**® Copyright © 1989 by the American Association for the Advancement of Science. The title **SCIENCE** is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): \$75. Domestic institutional subscription (51 issues): \$120. Foreign postage extra: Canada \$46, other (surface mail) \$46, air mail via Amsterdam \$85. First class, airmail, school-year, and student rates on request. **Single copy sales**: Current issue, \$3.50; back issues, \$5.00; Biotechnology issue, \$6.00 (for postage and handling, add per copy \$0.50 U.S., \$1.00 all foreign); Guide to Biotechnology Products and Instruments, \$18 (for postage and handling add per copy \$1.00 U.S., \$1.50 Canada, \$2.00 other foreign). Bulk rates on request. **Authorization to photocopy** material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$1 per copy plus \$0.10 per page is paid directly to CCC, 27 Congress Street, Salem, Massachusetts 01970. The identification code for *Science* is 0036-8075/83 \$1 + .10. **Change of address**: allow 6 weeks, giving old and new addresses and 11-digit account number. **Postmaster**: Send Form 3579 to *Science*, P.O. Box 1722, Riverton, NJ 08077. *Science* is indexed in the *Reader's Guide to Periodical Literature* and in several specialized indexes.
- The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objects are to further the work of scientists, to facilitate cooperation among them, to foster scientific freedom and responsibility, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.



COVER Molecules of 10-alkylcyanobiphenyl condensed onto the surface of graphite are imaged with the scanning tunneling microscope (STM). The image is seen over an enlargement. The 56 by 56 Å² image has a height range of 1 Å, where red is highest and blue is lowest. The STM is sensitive to the different functional groups of the molecule; the biphenyl groups appear in the image as red ovals and the alkyl groups as green tails. See page 43. [Photograph by Douglas P. E. Smith; computer graphics by Michael Niksch and Lloyd LaComb, Jr., using a silicon Graphics Iris computer]

- 52 The *Diageotropica* Mutant of Tomato Lacks High Specific Activity Auxin Binding Sites: G. R. HICKS, D. L. RAYLE, T. L. LOMAX
- 54 Influence of Interior Packing and Hydrophobicity on the Stability of a Protein: W. S. SANDBERG AND T. G. TERWILLIGER
- 57 Purification and Complementary DNA Cloning of a Receptor for Basic Fibroblast Growth Factor: P. L. LEE, D. E. JOHNSON, L. S. COUSENS, V. A. FRIED, L. T. WILLIAMS
- 60 Pretranslational Suppression of an Insulin-Responsive Glucose Transporter in Rats with Diabetes Mellitus: W. T. GARVEY, T. P. HUECKSTEADT, M. J. BIRNBAUM
- 63 Human Diabetes Associated with a Deletion of the Tyrosine Kinase Domain of the Insulin Receptor: M. TAIRA, M. TAIRA, N. HASHIMOTO, F. SHIMADA, Y. SUZUKI, A. KANATSUKA, F. NAKAMURA, Y. EBINA, M. TATIBANA *et al.*
- 66 Human Diabetes Associated with a Mutation in the Tyrosine Kinase Domain of the Insulin Receptor: M. ODAWARA, T. KADOWAKI, R. YAMAMOTO, Y. SHIBASAKI, K. TOBE, D. ACCILI, C. BEVINS, Y. MIKAMI, N. MATSUURA *et al.*
- 68 Histone H5 in the Control of DNA Synthesis and Cell Proliferation: J.-M. SUN, R. WIADERKIEWICZ, A. RUIZ-CARRILLO
- 71 Rapid β-Adrenergic Modulation of Cardiac Calcium Channel Currents by a Fast G Protein Pathway: A. YATANI AND A. M. BROWN

Software Reviews

- 76 Computer Programs for Mineral Exploration: F. P. AGTERBERG

Book Reviews

- 82 The Rise of the Wave Theory of Light, *reviewed by* D. B. WILSON ■ Mercury, S. C. SOLOMON ■ Volcanic Hazards, T. SIMKIN ■ Mobile DNA, B. G. HALL ■ Books Received

Products & Materials

- 86 Neurophysiological Magnetic Stimulator ■ Detector for Liquid Chromatography ■ Real-Time Color Image Analysis ■ Molecular Modeling Software ■ Automated Capillary Electrophoresis ■ Oligonucleotide Purification Cartridges ■ Interferometric Refractometer ■ Literature

Board of Directors

Walter E. Massey
*Retiring President,
Chairman*

Richard C. Atkinson
President

Donald N. Langenberg
President-elect

Mary Ellen Avery
Francisco J. Ayala
Floyd E. Bloom
Mary E. Clutter
Eugene H. Cota-Robles
Joseph G. Gavin, Jr.
John H. Gibbons
Beatrix A. Hamburg
William T. Golden
Treasurer

Richard S. Nicholson
Executive Officer

Editorial Board

Elizabeth E. Bailey
David Baltimore
William F. Brinkman
E. Margaret Burbidge
Philip E. Converse
Joseph L. Goldstein
Mary L. Good
F. Clark Howell
James D. Idol, Jr.
Leon Knopoff
Oliver E. Nelson
Helen M. Ranney
David M. Raup
Howard A. Schneiderman
Larry L. Smarr
Robert M. Solow
James D. Watson

Board of Reviewing Editors

John Abelson
Qais Al-Awqati
Don L. Anderson
Stephen J. Benkovic
Floyd E. Bloom
Henry R. Bourne
James J. Bull
Kathryn Calame
Charles R. Cantor
Ralph J. Cicerone
John M. Coffin
Robert Dorfman
Bruce F. Eldridge
Paul T. Englund
Fredric S. Fay
Theodore H. Geballe

Roger I. M. Glass
Stephen P. Goff
Robert B. Goldberg
Corey S. Goodman
Jack Gorski
Stephen J. Gould
Richard M. Held
Gloria Heppner
Eric F. Johnson
Konrad B. Krauskopf
Charles S. Levings III
Richard Losick
Karl L. Magleby
Philippa Marrack
Joseph B. Martin
John C. McGiff
Mortimer Mishkin
Carl O. Pabo

Yeshayau Pocker
Michael I. Posner
Dennis A. Powers
Russell Ross
James E. Rothman
Erkki Ruoslahti
Ronald H. Schwartz
Vernon L. Smith
Robert T. N. Tjian
Virginia Trimble
Emil R. Unanue
Geerat J. Vermeij
Bert Vogelstein
Harold Weintraub
Irving L. Weissman
George M. Whitesides
Owen N. Witte
William B. Wood

Science

245 (4913)

Science **245** (4913), 7-86.

ARTICLE TOOLS

<http://science.sciencemag.org/content/245/4913>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. The title *Science* is a registered trademark of AAAS.

Copyright © 1989 The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works.